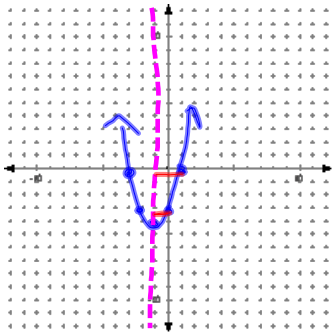
Warm-up!
Graph:
$f(x) = x^2 + 2x - 3$

$0 = x^2 + 2x - 3$
$(x-1)(x+3)$

V $(-1, -4)$
a.o.s. $x = -1$
y-int $(0, -3)$
mirrored pt $(-2, -3)$
another pt $(1, 0)$
mirrored pt $(-3, 0)$



x-intercepts

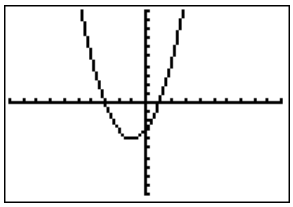
# Solving Quadratic Equations by:
# 6.2 graphing
# 6.3 factoring

ex 1:
Solve by factoring
$x^2 + 2x - 3 = 0$

$-3 \times -1 = 3$, $-3 + -1 = -2$

$(x+3)(x-1) = 0$
$x+3=0 \quad x-1=0$
$x = -3 \quad x = 1$

$\{-3, 1\}$



Roots
equations

Zeros
functions

x-intercepts
graphs of functions

ex 2:
Solve
$-x^2 - 6x - 9 = 0$

$9 \times 1 = 9$, $3 + 3 = 6$

$x^2 + 6x + 9 = 0$
$(x+3)(x+3) = 0$
$(x+3)^2 = 0$
$\{-3\}$

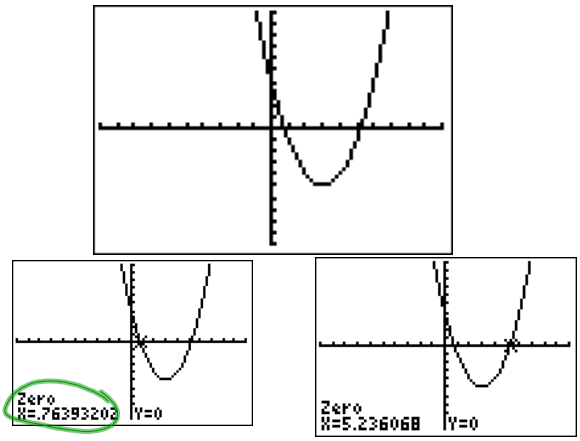
ex 3:
Solve
$x^2 - 6x + 4 = 0$

$4 \times 1 = 4$, $-4 + -1 = -5$

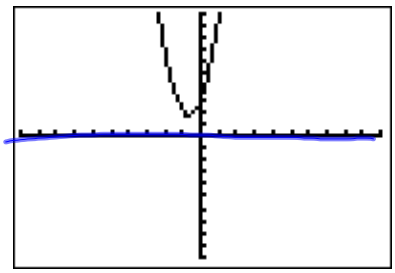
No Rational Solution

Imaginary or Irrational

$\{.764, 5.236\}$

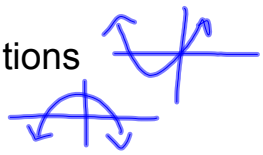



ex 4:
Solve
$3x^2 + 4x + 3 = 0$

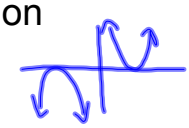


2 Imaginary roots

Two Real Solutions



One Real Solution



No Real Solution

HW
p298 32, 36 (Use calc)

p304 14-23, 32